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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,743	12/12/2003	Norio Sugiura	1508.68798	9537
24978	7590	08/09/2005	EXAMINER	
GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606			TON, MINH TOAN T	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/734,743

**Applicant(s)**

SUGIURA ET AL.

**Examiner**

Toan Ton

**Art Unit**

2871

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 7-8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamanaka et al (US 6452653).

Yamanaka discloses a liquid crystal display device comprising (see at least Figures 1, 8): a first substrate 11; a stepwise structure 13 formed on the first substrate to have a stepwise cross section; a resist film 14 which is formed on the stepwise structure, and on a surface of which a wrinkle-like roughness extending in a substantially same direction as the stepwise structure is provided; a reflective electrode 15 formed on the resist film and having an roughness that follows the surface of the resist film; a second substrate 20 arranged to oppose to the first substrate; and a liquid crystal 21 sealed between the first substrate and the second substrate.

Yamanaka discloses a cross section of the stepwise structure, which is perpendicular to a longitudinal direction being asymmetrical (see at least Figures 1, 8).

Yamanaka discloses the stepwise structure formed by a photoresist material.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka as applied to claims 7-8 and 10 above, and further in view of Sugiura et al (US 6882388).

It is known in the art that an azimuth of the roughness on a surface of a reflective layer is maximum in a horizontal direction yields advantages such as high reflectance. Therefore, it would have been obvious to one of ordinary skill in the art to employ an azimuth of the roughness on a surface of a reflective layer being maximum in a horizontal direction yields advantages such as high reflectance (see at least Sugiura '388).

5. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka as applied to claims 7-8 and 10 above.

Yamanaka discloses a liquid crystal display device comprising (see at least Figure 18) a TFT as a switching element having gate, source and drain wirings/electrodes. Forming a part of the stepwise structure by same material as a wiring that supplies a signal to the reflective electrode would yield advantages such as cost reduction (at least a known and a common goal in the art). Therefore, it would have been obvious to one of ordinary skill in the art to employ a part of the stepwise structure by same material as a wiring that supplies a signal to the reflective electrode would yield advantages such as cost reduction (at least a known and a common goal in the art).

A transfective LCD device is common and known in the art for yielding advantages such as it can be used(viewed) during the day as well as at night, i.e., transmissive and reflective

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modes, wherein a reflective electrode commonly comprises an opening portion. Therefore, it would have been obvious to one of ordinary skill in the art to employ a liquid crystal display device comprising a transfective mode for achieving advantages such as it can be used(viewed) during the day as well as at night, i.e., transmissive and reflective modes.

### ***Information Disclosure Statement***

6. IDS filed 03/15/04 has been acknowledged, but has not been reviewed and considered. It appears this IDS is for 10/734843, not 10/734743. Thus, it has not been reviewed and considered by the Examiner.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


### ***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Ton whose telephone number is (571) 272-2303.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 4, 2005

  
**TOANTON**  
**PRIMARY EXAMINER**